

**National Library Service
for the Blind and
Physically Handicapped**

The Library of Congress

Approved by Director, NLS/BPH

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Date *8/17/93*

Specification: #604

Title: Mailing Containers - Cassette

Date: August 1993



Technical Certification

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BACKGROUND

The National Library Service for the Blind and Physically Handicapped (NLS) of the Library of Congress administers a free library service to eligible residents of the United States and citizens living abroad who cannot hold, handle, or read traditional print media because of visual or physical handicaps.

Using federal funds, NLS annually publishes approximately 2,000 books and 70 magazines on cassettes, on discs, and in braille. Titles are selected to appeal to a wide variety of interests, and copyright permission is obtained from authors and publishers. Books and magazines are narrated and duplicated at a high-quality professional standard. The quantity produced of any title is dependent on anticipated reader demand.

Playback machines and their accessories are designed to facilitate convenient use by handicapped people and to provide maximum reliability under environmental conditions that are sometimes harsh and handling that may be technically unsophisticated or inadvertently abusive. The equipment plays program materials at noncommercial speeds: 8-1/3 rpm for discs and 15/16 ips, 4-track for cassettes. All materials and equipment in the program can be sent to users and returned to libraries postage free.

A cooperating network of 56 regional libraries and more than 100 subregional libraries circulates recorded and braille books to some 700,000 adults and children out of a potential three million eligible population. Magazine subscriptions are provided on a direct-mail basis from the manufacturers. Users must generally deal with service centers in distant cities with communication by mail or phone and little or no personal contact. Everything comes and goes through a mail-order system. Fifty percent of the users are over sixty-four years old, and many depend on the NLS program for their major source of entertainment and connection with the world; 95 percent read recorded materials, 5 percent read braille.

Users are informed about new books, magazines, and services through bimonthly publications, annual catalogs, and subject bibliographies produced by NLS, and through various publications produced and circulated by the regional and subregional libraries.

USER MATERIALS

Contractors who consider submission of a bid to produce books, equipment, or other program products should be cognizant of the consumer-responsive nature of the program, and that the specifications for these products have been developed to meet the special reader needs in the program. Materials are produced with those reader needs foremost in mind, and improved through constant monitoring and consumer input. Contractors are expected to familiarize themselves with the equipment-handling practices of blind and physically handicapped clientele and ensure that the equipment they produce will stand up under this type of use. A high degree of quality workmanship and product reliability is mandated by the product specification.

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1. SCOPE

This specification establishes design and performance requirements for plastic mailing containers supplied for the National Library Service for the Blind and Physically Handicapped (NLS), Library of Congress, talking book program on cassette.

2. APPLICABLE DOCUMENTS

The following specifications and standards of the issue in effect on the date of the invitation for bids form a part of this specification. In the event of conflict between them and the content of this specification, the specification shall be the superseding instrument.

Specification:

NLS, Library of Congress, Specification #403 Labeling and Packaging of Cassette Books.

Standards:

MIL-STD 105 Sampling Procedures and Tables for Inspection by Attributes.

Materials standards as outlined in the Engineering Data Bank section 2 (Raw Materials) of the Modern Plastics Encyclopedia (Current Edition) applicable to plastic molding compounds specified herein.

3. REQUIREMENTS

Production Control Samples

After contract award, two samples are to be produced from production tooling. The samples, accompanied by complete test data verifying their compliance with the specification, and a certificate of product compliance with paragraphs 3.4, 3.5 and 3.6 are to be sent to NLS. Approval of the samples by NLS establishes them as Production Control Samples for all subsequent production. One sample will be retained by NLS and the other will be returned to the contractor. All engineering changes during production will require NLS approval of two new Production Control Samples incorporating the changes.

First Production Lot

Upon written approval of the Production Control Samples, the contractor is authorized to produce 200 containers to be shipped to NLS for inspection. Further production or

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shipment of containers to NLS or NLS agencies will not be permitted until these containers are approved. Production (not just shipment) is to be stopped between the production of the first 200 containers and receipt of approval in writing to continue production.

3.1 Containers

The containers are to be injection molded plastic, using the LC supplied tooling. Dimensions on drawings LC604-1EV, LC604-1ME and LC604-2 represent mold dimensions and typical products from this tooling and are used for reference only. Containers must be flat and level when closed such that they are capable of stacking on a horizontal plane at least 10 high, for four cassette containers, and 8 high for six cassette containers, all facing the same way, with any and all conditions of cassette loading (0 to 6 cassettes). Under these conditions the top container of the stack must be parallel to the base plane to within five degrees at $70\text{ F} \pm 5$.

3.2 Latching

Latch tabs shall fit securely and shall require no less than 2.4 lbs to no more than 4.5 lbs pull to open at room temperature ($70\text{ degrees F} \pm 5$ ambient). The latches shall remain locked when a fully loaded container is dropped on each of the four corners and on the top and bottom sides to a concrete floor from a 6 foot height.

3.3 Label Placement Areas

Label orientation and placement requirements shall be as specified in drawings LC604-1EV, LC604-1ME, LC604-2 and with reference to NLS Specification #403, Labeling and Packaging Cassette Books, Figure 1.

3.4 Material

Low density polyethylene, Tenite 1870 (Eastman), U.S.I 213 NA, U.S.I 206 NA or equivalent subject to prior written approval by NLS and specified for injection molding applications, shall be used.

Prior to initial production and before resumption of production after any change in material, material safety data sheets describing all components of the product, including colorant and plastic, shall be submitted to NLS for written approval. NLS will not approve the use of components whose material safety sheets indicate the presence of hazardous ingredients such as heavy metals.

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3.5 Plasticizers

3.5.1

No liquid plasticizers or mold release agents are to be used under any conditions.

3.5.2

No vegetable derived amide, butyl stearate, paraffin, butyloleate or similar incompatible mold release agents or plasticizers are to be used in the manufacturing process under any conditions.

3.5.3

No secondary plasticizers (or extenders) are to be used under any conditions.

3.6 Color

Unless otherwise stipulated, the color index designation for the mailing containers used by NLS is MUNSELL 5G 6/10. Small quantities of Pantone Red, Color Number 200 C may be required. Pantone color specifiers may be obtained from Letraset U.S.A., 40 Eisenhower Drive, Paramus, New Jersey 07652. MUNSELL color sheet (Part Number 10100) may be obtained from MACBETH MUNSELL, Div of Kollmorgen, 405 Little Britain Road, New Windsor, N.Y 12553-6148.

3.7 Year and Lot Identification

A year and lot identification code shall be determined by the contractor, subject to approval by NLS. Year and lot identification must be placed on each container. See drawings LC604-1EV, LC604-1ME and LC604-2 for location of year and lot identification.

4. QUALITY ASSURANCE PROVISIONS

4.1 Inspection

The contractor is required to use a lot inspection sampling plan according to MIL-STD 105 with the modifications outlined in section 4.4.2. Acceptable quality level (AQL) shall be .65%, level II inspection. Lot size will be determined by NLS. A lot is defined as 60,000 containers or less. The lot inspection sampling plan shall include the following tests:

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- (a) Case dimension - insertion and removal without binding of NLS-approved cassettes and bookcards.
- (b) Latching - 2.4 lbs. (min.) to 4.5 lbs. (max.) pull to open; 6 foot drop to a concrete floor on each of the four corners and on the top and bottom sides with full load; at room temperature (70 degrees F. \pm 5). NLS will furnish test equipment for pull test.
- (c) Molded rear hinges and front strap hinges flexure-tested 10 flexes in an arc of 180 degrees for proper function without signs of breakage.
- (d) Posts-flexed 20 degrees minimum without signs of breakage.
- (e) Container flatness (paragraph 3.1).

4.2 Label Adherence

After half of each lot has been produced, testing of 10 samples shall begin for Brady #624 label stock and braille label stock adherence. A total of 20 samples shall be tested for each lot produced for Brady #624 label stock and braille label stock adherence. After applications of labels, samples shall be placed in a temperature controlled environment at 50 degrees F. for 24 hours and then at 110 degrees F. for 24 hours. After return to 70 degrees F., nominal room temperature, the labels shall be inspected for adherence to the containers. (NLS will furnish quantities of each label).

4.3 Workmanship

Containers shall be inspected for workmanship, including warpage and flash; for appearance; and for color.

4.4 Procedures

4.4.1 Organization Chart

The contractor is required to provide an organization chart, test procedures and inspection forms showing that his methods of quality control incorporate those established under this specification requirement. Written approval by NLS is required prior to the start of production.

4.4.2 Samples

The contractor shall perform the tests listed in paragraph 4.1, 4.2 and 4.3 on the number of samples indicated in MIL-STD 105. The samples are to be obtained by using one of the following procedures:

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1. Samples obtained at consistently spaced intervals of time throughout the production run for each lot, e.g. every two hours, three hours etc.
2. Samples obtained at consistently spaced number of cartons (110 containers per carton) throughout the production run for each lot, e.g. every second carton, third carton etc.

The contractor shall send to NLS Quality Assurance Section for acceptance and shipping approval, one box consisting of 110 random samples from each production lot. The samples must be identified with information indicating when the sample was produced, e.g. date, shift, time, box. Ten (10) of the samples must have been subjected to the label adherence test in paragraph 4.2. Contractor's inspection reports indicating the results of the tests in paragraph 4.1, 4.2 and 4.3 along with the actual value of the latch pull force must accompany the 110 samples. If any of the samples are rejected for defects, 100% of the containers produced in the period prior to the period the defect occurred, 100% of the containers produced during the period the defect occurred and all containers produced after the defect occurred until it is assured the defect no longer exists, must be reinspected by the contractor at no cost to NLS.

4.4.3 Rework

Should NLS find defects in the inspected production samples of the product, then the defects in previously produced containers shall be reworked and production inspections or controls for prevention shall be instituted without additional charge to NLS.

4.4.4 Recall

Containers produced under this specification are subject to recall from the recorded book producers or from the network agencies, if actual use determines that the containers fail to meet the criteria under these quality assurance provisions, for a period of one year from the shipment date printed on the cassette container label. It shall be the prerogative of the Library of Congress Contracting Officer, or his duly authorized representative, to institute a recall following a detailed written explanation to the contractor.

4.4.5 On-Site Inspection

The National Library Service, Library of Congress, reserves the right to on-site

inspection at any time of any process or test being performed during the manufacturing of products described herein. The NLS representative shall have the authority to select, at random, samples of the containers at any time during production for testing to the specified requirements. The right is reserved by NLS to reject any production lot which fails to meet the .65% AQL.

5. PREPARATION FOR DELIVERY

Containers are to be packed 110 (4-cassette containers) and 80 (6-cassette containers) per carton. Cartons are to be of cardboard material sufficient in strength to meet the following requirements:

- (a) Capable of sustaining a burst strength test of 150 pounds per square inch.
- (b) Capable of holding a maximum of 80 pounds total weight.
- (c) Acceptable for safe transit through freight shipping systems.

In order to receive shipping approval, the contractor must provide written documentation that the product conforms to the above stated requirements. On receipt of this documentation, the Library of Congress Contracting Officer or his duly authorized representative will provide the contractor with written shipping approval.